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The Files

13 September 1957

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Trip Report - [REDACTED]
Task Order 5 & 6

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1. A visit was made to the [REDACTED] on 4 September 1957, to inspect and discuss the progress of Task 5 and 6 of contract [REDACTED]. The following people were contacted:

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2. Most of the visit was devoted to the consideration of Task 6, Power Sources. The final report for Task 2, Power Sources Study, for FY 57 is to be forwarded by the end of September. [REDACTED] described their work quite thoroughly. The results obtained in the study of thermoelectric generators were impressive. However, there is little progress in the development of a "dirt" battery and in the field of gas-activated batteries.

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3. Recent experiments with the zinc antimonide-constantin thermocouples have resulted in efficiencies as high as 3.6%. Over a hundred hour period, efficiencies over 3.2% were obtained. In a 1000 hour period, efficiencies were never under 1.5% (see Attachment 2). The couples used in these experiments were bonded in an oxygen-free atmosphere. It was pointed out that the material, i.e. proportions, and size of the thermocouples is not particularly important. The main problem is the difficulty in bonding the materials together securely, especially at the hot junction. The acquisition of a [REDACTED] personnel in Europe is being considered. An efficiency of 3.5% is claimed for their unit. Of interest is the reference in descriptive literature to the use of "carbon" as one of the junctions.

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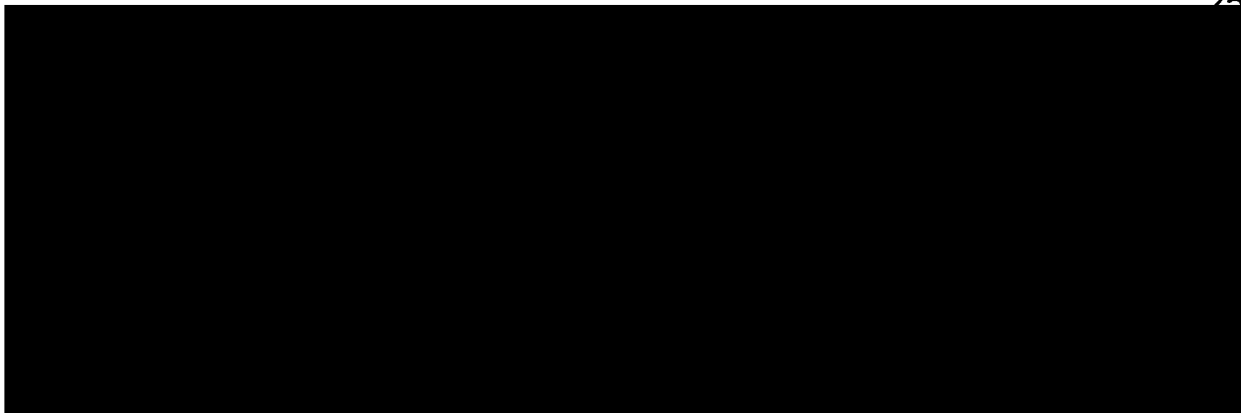
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5. A short conference was held with [redacted] project engineer for the Radio Circuits Study, Task 5, and his engineers. The complete tube version of the RS-11 equipment was shown to [redacted] and [redacted] wishes to obtain copies of these units and their evaluation reports to ascertain performance requirements which have to be met in their development of a transmitter and receiver using unconventional circuits. [redacted] is to be furnished the antenna and antenna impedance information when it becomes available. A few questions were answered as to crystal frequency, sensitivity and selective calling features. The development of a definite receiver or transmitter is not in evidence [redacted]. Unconventional components and circuits were mentioned but no block diagrams have been prepared. It is hoped that more progress will be made and that more concrete information will be available the next inspection period.

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6. [redacted] asked for more specific guidance in directing the component study and inquired whether our equipments (RS-11A, RR-11AA etc.) and evaluation reports could be made available [redacted]. The undersigned expressed the opinion that the company's final report on Task 1 did not indicate that any of these components were ready for circuit functioning due to temperature or other unsuitable characteristics. Under Task 5 the contractor is to design a transmitter and receiver using these components. The undersigned requested that the company summarize component characteristics in their progress reports as factual data to include limitations and recommendations on which we might base an opinion. With respect to supplying GFE equipment and evaluation reports, [redacted] was advised that that matter would be discussed with Headquarters.

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7. With respect to the Power Sources Study the undersigned expressed the opinion that the work appeared to be divided between thermocouple development 85% and battery studies 15%. The company took exception and felt that the work was closer to thermocouple development 60% and battery studies 40%. (This is not substantiated by their progress reporting or personnel assignment).

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